

DERWENT-ACC-NO: 2002-111735

DERWENT-WEEK: 200215

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TITLE: Method for manufacturing nutritious flavored glutinous  
rice by aseptic packaging

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PRIORITY-DATA: 2001KR-0043918 (July 20, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2001079456 A	August 22, 2001	N/A	001	A23L 001/182

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
KR2001079456A	N/A	2001KR-0043918	July 20, 2001

INT-CL (IPC): A23L001/182

ABSTRACTED-PUB-NO: KR2001079456A

BASIC-ABSTRACT:

NOVELTY - A method for manufacturing nutritious flavored glutinous rice by aseptic packaging is provided to improve the product quality and to prolong the shelf life.

DETAILED DESCRIPTION - Glutinous rice and nonglutinous rice are mixed in a ratio of 50:50. The mixed rice is washed and dipped in water for 40-90 minutes to have a moisture content of 25-30%. Chestnuts are peeled and cut into 2-4 parts. The chestnuts, pine nuts, ginkgo and ginseng pieces are dipped in water of 40-70deg.C for 1-5 hours to have 20-40% of moisture content. The pits of jujubes are removed and the flesh is cut into 2 parts. The flavored glutinous rice is manufactured by mixing with the mixed rice 60%(w/w), chestnut 5-20%(w/w), pine nut 1-5%(w/w), ginkgo 1-5%(w/w), ginseng piece 1-5%(w/w) and jujube 1-5%(w/w). The ingredients are compressed and sterilized at 121-141deg.C with 1.05-2.8kg/cm2 of pressure for 1-6 minutes. Cooking sauce contains sugar sauce 30-50%(w/w), sesame oil 5-15%(w/w), soy sauce 3-7%(w/w), caramel sauce 2-10%(w/w) and purified water 50-60%. The cooking sauce is sterilized at 131-141deg.C for 1-4 seconds. The sterilized ingredient 90-150g and the sterilized cooking sauce 64-125ml are cooked at 115deg.C with 0.75kg/cm2 of pressure for 15-30 minutes and heated at low temperature for 5-15 minutes. The cooked flavored glutinous rice is packaged by an aseptic packaging method.

CHOSEN-DRAWING: Dwg.1/10

TITLE-TERMS: METHOD MANUFACTURE NUTRIENT GLUTINOUS RICE ASEPTIC PACKAGE

DERWENT-CLASS: D13

CPI-CODES: D03-L;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2002-034473



## Patent Application

➤ Right Classification	Patent.
➤ Receiver	Commissioner of KIPO.
➤ Reference Number	0001
➤ Submission Date	2001.07.20
➤ Korean Title of Invention	Method for manufacturing the aseptic packing nutrientcooked rice
➤ English Title of Invention	Method for manufacturing the aseptic packing nutrientcooked rice
➤ Applicant	
Name	WOOJUNG MULSAN CO., LTD.
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Individual id number	Secure Information
Postal code or zip code	Secure Information
Address	Secure Information
Nationality	KR
➤ Request for Examination	Demand.
➤ Earlier Publication	Petition
➤ Purport	
We file an application under Article 42 of Patent Act as above. Applicant WOOJUNG MULSAN CO., LTD. (Signature)	
➤ Official Fee	
Application Fee	14 page(s) 39,000 won.
Additional Application Fee	0 page(s) 0 won.
Priority Fee	0 case 0 won.
Examination Fee	1 claim(s) 141,000 won.
Total	180,000 won.
➤ Other	Duplicate copy of an application (original) 1 container.
➤ Attached Documents	
1. 2 summary · specification(drawing).	

## Patent Specification

## ➤ Abstract

## Abstract

As to the present invention, with relating to manufacture the aseptic boiled rice of the nutrition informality among the rice cooking method it is to re-elect the quality of an informality among the quality improvement of the nutrition informality and manufacturing method phase long-term storage and circulation and constellation.

That is, while the asepsis sterilizing system being made the most of and to reinforcing the gloss improvement of the nutrition informality rice and elasticity of the grain of boiled rice in the rice cooking, it has to note about the appropriate mantissa and thermal process so that especially, the organization of the glutinous rice collapse. And it very has to note about the sterilization in the night, zizyphi Fructus, pine-nuts, bank, the case including the ginseng slice etc and the mixing rice cooking which is the material which is greater than the particle of the rice. That is, the characteristic of the present invention to prevent the heat injury of the glutinous rice and ... in which a particle is small in the thermal process and go side by side with the sterilization of coarse-grained materials. And in case of coarse-grained materials being in advance the steaming processing and the rice cooking since the characteristic quality and constellation of an informality are on the decrease, the present invention supplements the disadvantage of such preprocessing and the other materials is respected after the immersion hydration to directly directly the rice cooking and a particle is to develop the process. In this way, delicious to be combined and get nutrition flavored glutinous rice the feature of the rice and the component which these contain and can manufacture the functional nutrition informality rice.

## ➤ Representative Drawing

Drawing 1

## ➤ Specification

## Title of Invention

Method for manufacturing the aseptic packing nutrientcooked rice {Method for manufacturing the aseptic packing nutrientcooked rice}

## Brief Description of the Drawings

## The Detailed Description of Invention



## The Purpose of Invention

## Field of Invention and the Prior Art

Since the object of the present invention does not cook the quality improvement which is the quality and outer tube of the rice, and the raw materials which it adds that be'ves designed to improve a functionality in advance to manufacture the aseptis nutrition informality rice and the size enough controls the extent of being ripe of the other raw materials with preventing the radioactive decay of the grain of boiled rice in the rice cooking even if it directly mixes with the steeped soaked rice and it sterilizes the extent has a purpose in the development of the informality rice hygienic and in which the long-term commercial distribution is possible.

As to the informality rice, since being the nutrition rice of the cage tradition but runing parallel with the task in which the manufacturing process phase size mixes the long-term commercial distribution with the other raw materials while the existing manufacturing method separately has to handle the steaming processing the rice and treatment of raw material that it has a problem, it is insanitary. While to circulating to a cooling or a freezing in case of commercializing this, in the retention period, the disadvantage is what short.

But the present invention has the number manufacturing the nutrition rice in which components of, moreover, each raw materials are well in harmony while all materials enough added in the rice cooking enough can exercise the raw material which becomes in advance self-discipline if it is not manufacturing process by an addition and it enough hydrates the other raw materials and the size the pressurized sterilization in the first low moisture state and it handles the sterilization and steaming processing.

In the aseptic boiled rice in manufacture low moisture state, by heat-treating each raw material with the first while in the rice grain in which a particle is small, the wet heat processing is, it becomes enough each raw materials having a large size. And by if the rice cooking is to the rice cooking number, the heating source which at this time, is applied stabilizing the rice starch and the component of the source liquid coating the granules the appetite improvement and quality improvement of the informality rice itself, the suppression of the aging, and the elasticity and integrity of the grain of boiled rice get the aseptis rice cooking source liquid better. Moreover, by making the most of the aseptis rice cooking system the manufacturing process of the Yang Yang informality rice is done with batch processing and the extension pollution source is blocked in comparison with the informality rice of a tradition and the effect that improves the quality having with the extension number, etc crawls on the period of circulation and it becomes.

As to the present invention, the sterilization of the high temperature [121~141°C (1.05~2.8kg/cm<sup>2</sup>)] : the sterilizing process at the low moisture state the wet heat processing of the starch consists of not only the thermoduric bacteria but also a primary among the aseptic processing process for making the aseptic boiled rice and the ovolytic starch is increased in the surface of the rice starch.

In the increment of the refractory starch in the surface of this eutectic phase granules and coarse-grained other materials is the ionic degree, it becomes additionally enough the steaming processing with the sterilization. And if the aseptis rice cooking source liquid is added and the pressurized rice cooking is, while an alpha enough and raw materials in which the particle size is big the steaming processing becomes as to the rice grain, at this time, the overall boiling apparatus at this time determines the cooking quality of a product. That is, the pressurized rice cooking determines the level which becomes with the steaming of the raw material added than the process of manufacturing the existing rice. Moreover, the component comprising the source of the rice cooking number the particles of the utilization products is coated and the starch elution in the granules is to be suppressed and the elasticity of the granules is to be gotten.

As to the nutrition informality which this kind of method is manufactured with this kind of method, the Holotrichia of the good with quality the flavor component and taste of each raw materials are harmonized informality rice becomes possible.

Recently, as to the industrialization of the boiled rices, the various consumption is achieved due to the development of the dining industry and increment of feeding enterprises but while it is very inferior and it is fixed, not being managed, the period of circulation the quality of the nutrition informality rice by the small production is very short.

In case of the case and nutrition mode rice cooking of the general rice cooking, respective characteristic of the rice grain is usually noted about the point as follows with consideration and the rice cooking has to be.

The fundamental part toward the gelatinization conduct of the rice starch for cooking the general and delicious rice are as follows.

If the water is added to the rice and it heats, the minute bind of the rice starch is gradually collapsed. And while the water molecule enters through the minute bind which becomes with this radioactive decay, while incoming and outgoing of the water molecule are freed while it becomes more bleared and it is collapsed and the network structure is widely circulated, the minute bind consists of the gelatinized starch.

While classifying into the temperature rising device, boiling apparatus, boiling vessel, and 4 step, the process of being general it boils rice gives a necessary time the gelatinization of the starch mainly decreases and the process of being general it boils rice occurs in temperature rising device. As to the temperature rising device, according to the kind of an oven with the time to the time, in which the water among an oven boils amount of the water, the water temperature heating method, the thermal power etc, the turnaround time is different. That is, while it absorbs the moisture and the rice swells, as the water temperature rises the gelatinization of the starch begins in case of the rice starch in 63°C~67°C. If a temperature rises and it is the gelatinization measure and the rice starch is utterly swollen, the moisture of a surrounding is enough humidity-absorbed. The state at this time is fair and it becomes in the state of \*\*\* heartburnings grain of boiled rice and it contains the moisture of a little in a surrounding. At this time, a heating is suspended and it is done by \*\*\* of an itself to give a necessary time. That is, the process of aging the grain of boiled rice to \*\*\* and making have the elasticity and doing the moisture of the surface with the rehygroscopicity Haage and stabilizing the rice moderately to give a necessary time.

Here, as to as to the process of being general it boils rice, a gelatinization, in the process, the reversible phenomenon that the absorption of the moisture occurs due to the rising of a temperature and an elution of moreover, the content component in the granules occurs due to the water is generated. And if the temperature rising device is lengthened, the starch of the rice surface is dissolved in the water and a crippling occurs but if it reaches the boiling point, it is more serious, the crippling of the surface is accelerated. At this time, the starch of the rice grain and surface breakdown is gushed out and as to the rice water, the quantity of soluble solid increases. But as a temperature rises and the time passes, in conclusion, the rice water is all absorbed due to a swelling into the rice grain and in the rice grain, the rice is. And if it is done by a final to give a necessary time, at this time, the zero term in which both of the starch in which a pectine accumulates to the amyli and which decreases the patience of the rice and which is gushed out in relation with the rice quality (cooking quality) including the organization (texture), the luster (gloss), the form of the rice, the elasticity etc. and the amylose gushed out to the rehygroscopicity of the moisture in the surface of the grain of boiled rice is sizable is reached.

Of course, according to the time of the temperature rising device and the amylose content, gushed out the mild temperature, and the kind of the rice, the quality of the rice is different. Moreover, the gelatinization temperature of the rice starch, the content of a protein, the content of a fat etc. affect the taste or the property.

But the glutinous rice and the nonglutinous rice which is the main raw material to show with aseptis nutrition informality rice of the present invention are nearly the same as that of the process of being general of the upper part to the same mechanism the glutinous rice and the nonglutinous rice which is the main raw material to show with aseptis nutrition informality rice of the present invention boil rice. However, here, as to raw materials entering the result of a steaming and the speed of being ripe when it heated at the same temperature while being comprised like the night, the Zizyphi Fructus, the pine-nuts, a bank of nut, fruitless is different. Moreover, since the content of the solid portion is high, the rice cooking mechanism very has to note to play a mantissa to the rice cooking number.

That is, as to added raw materials, the moisture content is contained to enough immersion over 25%. Since enough moisture content becomes the soft state good to eat in the rice cooking looked if it becomes enough steaming processing in Biorization, it does enough immersion. Moreover, the immersion temperature is very important in the immersion. The immersion temperature could shorten the quality maintenance and soaking time of the raw materials to sustain about 40~70°C. If it is similar to the process of being general but it boils rice the processing of each raw materials is put in the mind and the process is adjusted, it shows with aseptic boiled rice it is the same as that of the next time.

Raw rice (the glutinous rice and \*\*\* =1:1) are washed and it dips with 40~90 minutes and the moisture is enough done with the moisture-absorption (25~30%) and raw materials as to the night (1/2~1/4 equality aliquot), pine-nuts, bank, ginseng slice, broken with force, the moisture content dips in the state of the temperature 40~70°C according to each material as possible. As to the Zizyphi Fructus, cleans C and divides equally with 2 what big. After when the night is the dried shelled chestnuts, it boils with 30~60 minutes, mixing each raw materials in a container, the norm 90~150g is filled in the molded container. In the low moisture state with the container herbs, the first gelatinization processing and Sterilization processing are handled to the condition of [121~141°C, 1~6 discrimination in (1.05~2.8kg/cm<sup>2</sup>)]. In the next positive pressure condition (0.05~0.75kg/cm<sup>2</sup>), a mantissa is to the sterility.

In the next cooking room, the package hermetic sealing is sealed up the rice cooking time to the state of the pressurized rice cooking (115°C, 0.75kg/cm<sup>2</sup>) in the Hoo clean room to treat with about 15 half an hour the rice cooking and give a necessary time.

In this way, while the difference at the process of manufacturing the aseptic boiled rice of being general a particle applies the principles of the processing drawing first Sterilization processing of the other raw material like the informality rice, the present invention boils rice even though the solid portion is high by the rice cooking liquid source hydrolyzed in a formation and rice cooking of the refractory starch in the granules of the first gelatinization state, the content component is partly gushed out from all raw materials. Next, if the state of the heat pressurization is maintained, the moisture gelatinization is progressed and the reversible state becomes the rice



cooking liquid a rehygroscopicity and the starch nearly humidity-absorbs the moisture of the rice cooking submerged. At this time, a part component relates to the technology which penetrates inside the granules but in which the middle greasiness coats the rice grain and it is belittlingly combined in the process where the nutrition informality rice is with rest raw materials and which a part component that is, the availability elution starch coats while the glossiness has the grain of boiled rice.

#### Technical Problems to be solved by the Invention

With using the characteristic characteristic in manufacture sterilization and rice cooking of the aseptic boiled rice the present invention utilized the rice cooking liquid source which at this time, was added like the upper part as the dispersing stabilizer. And it safes, it is to sterilize and the various sizes of raw materials the stable nutrition informality rice is to be manufactured with steaming.

Generally, it mixes with raw materials separately boil the rice in order to manufacture the informality rice and in which the size separately processes other raw material (the night, the Zizyphi Fructus, and the pine-nuts,) a steaming and it buries the next sugar and sesame oil caramel syrup etc. and which are again autoaging processed the steaming heartburnings next and the steaming processing is again handled. The manufacturing process of such informality little by little has a difference but it cannot put the steeped soaked rice and various sizes of materials and the rice cooking at each local at an assumption in the Ham KkeoBeon what basic. That is, in conclusion, with giving a difficulty to a commercialization the sanitation phase manufacturing method phase many problems is provoked what \*\*\*.

While being the aseptic boiled rice manufacturing process of the present invention developed as the object of the Holotrichia of the nutrition informality rice utilized is the cooking quality improvement of this in the thermal process, it improves the cooking phase cooking quality of the improvement purpose of the qualitative cause for change and rice and the cooked rice, that is, the quality (eating quality) of the rice like the existing aseptic boiled rice in the long-term commercial distribution and the purpose of application is to manufacture the stable asepis nutrition informality rice in the nutrition informality of the present invention.

This aspect of manufacturing, to accomplish the above objects, the present invention dissolves the sugar, sesame oil, nicely aged soy sauce, caramel syrup among the process of injecting the rice cooking number among the aseptic boiled rice manufacturing process and it adds to the rice cooking number at a time and it is to improve a constellation and quality of the asepis nutrition informality rice in the rice cooking.

In the high temperature (115°C) high pressure (0.75kg/cm<sup>2</sup>) state in the rice cooking, while the source aqueous solution has the effect coating the granules asepis processed, it is gushed out and it is mixed with the source rice cooking liquid and it coats the granules and it gives the elasticity and at this time, it makes the color a part starch in the granules clear. Moreover, the inside scent nutrient component of the granules protects due to the effect of this coating.

#### The Structure and Function of the Invention(Device)

As to the aseptic boiled rice, in the room temperature, since the long-term preservation dragon being manufactured with the long-term preservation dragon, it is important than a what and the quality of manufacturing has to note in the process of distribution about the change of the quality. The method of the aspect of manufacturing is classified into approximately, 2 kinds among the method for preventing this quality variation. As to the middle first, if die the thermocuric bacteria existing in the raw material out and be:vs designed to stabilize the sterility and improve the quality of manufacturing (cooking quality) to the second, and it improves the quality of the product sell, then the circulation is possible for the long-term preservation.

Be:vs designed to solve the problem described in the above, and while the size used the other raw material in the manufacturing process as the purpose of improving the quality of manufacturing after the first sterilization, it dissolves the rice cooking liquid (sugar 30~40 A % (w/w), sesame oil 5~15 % (w/w), the nicely aged soy sauce [over the deionized water extract 6.0 % (w/v) over the total azote 0.6 % (w/v)] 3~7 % (w/w), the caramel source [soluble solid 60 % (w/v)] 2~10 % (w/w) with the purified water of 50~60% and it sterilizes to HTST with 1~4 the first publication and it makes the asepis rice cooking source liquid and it 0.8~1.5 drainage (64~225ml) in the positive pressure condition (0.05~0.75kg/cm<sup>2</sup>) of the asepis a mantisse and it 15~30 minutes the rice cooking to the pressure (temperature 115°C) of the clean steam 0.75kg / cm<sup>2</sup> and it does to give time of 5~15 minutes and it manufactures and the rice cooking number packs in the sterility.

The rice cooking number is supplied in the state the Biorization [121~141°C, 1~6 discrimination in (1.05~2.8kg/cm<sup>2</sup>)] and maintains the positive pressure of the rice cooking number supply room drawing 0.05~0.75kg / cm<sup>2</sup> and the automatic rice cooking to 15~30 minutes and as indicated in the process map where it looks at the composition principles of the sterility, the rice cooking the high pressure rice cooking temperature 115°C, and the pressure silver 0.75kg / cm<sup>2</sup> time queue in the load chamber with 5~10 minutes. This load chamber maintains the positive pressure with 0.05~0.75kg / cm<sup>2</sup> and it has the amount YAP circle to the nitrogen. The product of the molded container is sealed hermetically in the encapsulating room connecting to the encapsulating room through the seal tunnel and is shut tightly. While the condition of this encapsulating room setting up the positive pressure like the load chamber, it sterilizes the ultraviolet sterilization and it uses the lith film of the molded container.

The product in which the hermetic sealing is completed waters the cooling water in an exhaustion and it cools of a little and it reduces the wrapping paper internal pressure. It does to give time of the next 5~10 minute and a product is cooled through the cooling device to the room temperature and it develops as products.

In the moment high-temperature sterilization 131~141°C with HTST, the rice cooking source liquid supplied to an outside among the process described in the above sterilizes with 1~4 the first publication and it stores in the sterile storage tank. And the process of the asepis rice cooking line dips the raw rice (the glutinous rice : \*\*\* = 1:1) with 40~90 minutes and if 25~30% is, the contained moisture removes the moisture. Moreover, as to the night (1/2~1/4 equally aliquot), the pine-nuts, a bank, the ginseng slice, which each raw materials break with the washing in water the moisture content dips in the state of the temperature 40~70°C according to each material as as possible. As to the Zizyphi Fructus, cleans C and divides equally with 2 what big. After when the night is the dried shelled chestnuts, it boils with 30~60 minutes, mixing each raw materials in a container with the raw rice, the norm 90~150g is filled in the molded container. In the low moisture state with the container herbs, it sterilizes to the condition of [121~141°C, 1~6 discrimination in (1.05~2.8kg/cm<sup>2</sup>)] with the first gelatinization processing.

The asepis rice cooking source liquid is made and 0.8~1.5 drainage (64~225ml) is in the positive pressure condition (0.05~0.75kg/cm<sup>2</sup>) of the asepis a mantisse and 15~30 minutes the rice cooking is to the pressure (temperature 115°C) of the clean steam 0.75kg / cm<sup>2</sup> and it does to give time of 5~15 minutes and it manufactures and a package is injected in the sterility and 15~30 minutes the rice cooking is in the condition of the hot-pressing rice cooking (115°C, 0.75kg/cm<sup>2</sup>). In the state where the rice cooking is completed, it does to seal up the asepis hermetic sealing in the clean room and it is the half demo key and give a necessary time with about 5~10 minutes. The person cooled to about next 10°C is printed and it has the weight check and it develops as products.

While giving the wet heat processing effect about the submerged rice starch, as to the heating processing, the important processing lowering the starch dissolution rate consists of high pressure and high temperature of the low moisture state (25~30%) of the submerged rice among the process in an availability and rice cooking of the starch. In this state, a part rice starch is gushed out and the partial source component penetrates into the rice cooking number inside the granules. That is, as as to the rice grain, in which the reversible exchange is made and which is sterilized the rice cooking is progressed, it is swollen and the absorption of the selective moisture is made and the rice cooking number nearly absorbs the rice cooking number with gelatinization. In this state, in conclusion, as to the remaining moisture, a resorption is all made of the rice grain in the process of coating the surface of the rice grain in the starch partly gushed out and the state where the source component is mixed and finally costing a moxacautery. That is, as to the state where the rice is completed, the grain of boiled rice the large quantity content becomes the moisture in the state and the finished product is in the surface to the state that the starch and source component are integrated and that is coated.

In the condition as follows the long-term preservation rice cooking experiment of the finished product, an experiment was performed.

#### Embodiment 1).

After mixing with the submerged rice (glutinous rice : \*\*\* = 1:1) and globe ash and filling and the mixture [60:40(v/v)] 120g being sterilized in the molded container in 131°C, 1.8kg / cm<sup>2</sup> with 3~4 discrimination and the source mixture (total solids 15%) solution 90ml being filled and 25 minutes the rice cooking being and costing 10 minutes a moxacautery, during being 90 after a production, it uses as all kinds of the test samples in the warming chamber of 35~42°C after the storage.

#### Embodiment 2.

After mixing with the submerged rice (glutinous rice : \*\*\* = 1:1) and globe ash and filling and the mixture [60:40(v/v)] 120g being sterilized in the molded container in 141°C, 2.8kg / cm<sup>2</sup> with 1~2 discrimination and being deep with layer and 25 minutes the rice cooking being and costing 10 minutes a moxacautery, during being 90 after a production, it uses as all kinds of the test samples in the warming chamber of 35~42°C after the storage.

#### Embodiment 3 (the method of the preexistence tradition)

The submerged rice (glutinous rice : \*\*\* = 1:1) the globe ash is prepared for against like the sample.

The submerged rice is steamed to the increase of capital oven and if a layer once goes up, the water is evenly sprinkled and it mixes and the hard-boiled rice is again very hot. When the rice is hot, the sugar, and the sesame oil are put and it well mixes. If RR falls down, the hard-boiled rice well mixes the nicely aged soy sauce and caramel source and the night and Zizyphi-Fructus-pine-nuts bank etc. are evenly mixed and pre-processed in advance; a lid is covered and if it does not have with the moisture, the hemp cloth-wrapper is lain on a steamer and the hard-boiled rice is put in and it steams over 2 hours. If it gets soft to an inside, the rice and globe ashes put into the courage and it wraps up with 210g sick.



An use with all kinds of the test samples after the storage in the cold room of 10℃ after a production.

1) Measuring pH-value.

After the distilled water 25ml being added to the sample 10g and homogenizing through the homogenizer (ACE homogenizer Nissei Japan), a supernate the pH value is measured at a centrifuge after a centrifuge.

2) Microbiological inspection.

The general bacterial count of a sample measured according to the food code seventh, general test method 8 microbe test, method 2) bacterial count (general bacterial count (1) standard plate count.

As to the preprocessing of a sample, after homogenizing in a homogenizer-after adding the sterile physiological saline solution two times to the sample 20g, it used as an analyte. After 9ml being made the injury sterile physiological saline solution (0.85%NaCl W/V) and the sample 1ml pre-processed being inoculated with 1mltr and diluting to 10 drainage, each dilutants 1ml was inoculated with the plate and the Plate count agar (Difco) was poured and it coated and it did 48 hours cultivation in 37±1℃ and the colony group was measured.

3)The sensory evaluation evaluates the compactibility of the soft extent, humidity, cohesive force, grain of boiled rice, etc. the uniformity of the grain of boiled rice, the integrity, existence and nonexistence, a colour, and the glossiness the standards, and the texture evaluation of an authoring the sensory evaluation is broken to pieces(evaluation staff 10 people)

Each embodiment pH and bacteria check result.

시료 저장일수	실시예 1			실시예 2			실시예 3		
	pH	총균수	관능	pH	총균수	관능	pH	총균수	관능검사*
발효 검사	6.73	0	5.0	6.64	0	5.0	6.88	$2.8 \times 10^3$	5.0
1 일	6.92	0	5.0	6.77	0	5.0	6.78	$3.9 \times 10^4$	5.0
10 일	6.89	0	5.0	6.59	0	5.0	6.01	$5.5 \times 10^5$	3.5
30 일	6.54	0	5.0	6.43	0	5.0	5.11	$3.2 \times 10^6$	0**
60 일	6.45	0	4.8	6.89	0	5.0	4.21	$2.9 \times 10^7$	0
90 일	6.78	0	4.8	6.78	0	4.9	3.13		0

\* sensory inspection: It 5.0 blastema is good. It is bad with 4.0 \*\*\*, 3.0 normal, 3.0, It 2.0 blastema is bad.

\*\* 0: the could not test with the degeneration.

Effect of Invention(Device)

As to the asepsis nutrition informality rice, in the room temperature, while manufacturing the long-term commercial distribution with a purpose, although the long term distribution is, when re-heating in the rice quality (eating quality) and microwave oven or the boiling water like the traditional Korean hat paper silver rice, the cooking quality has to be good without on quality change. When the rice cooking to this purpose, it could confirm that the quality was excellent.

Moreover, while the protecting of the elasticity due to the hydration of the grain of boiled rice by a part condensation moisture recognized an effect since the moisture of the large amount existed, the aseptic boiled rice the poor quality of the grain of boiled rice by the negligence of the long term aging state could prevent in the long-term preservation. And while the hydration control by the condensation moisture due to the coating effect confirming, the there are many various nutritions globe ash is added and an effect and the incidental taste are expected.

Scope of Claim(s)

Claim [1]

1) After the glutinous rice and nonglutinous rice being mixed among the process of manufacturing the asepsis nutrition informality to the weight ratio 50:50 and well washing, it dips as as possible. As to the night (1/2~1/4 equality aliquot), pine-nuts, bank, ginseng slice broken with the washing in water, in the state of the temperature 40~70℃ according to each material, the moisture content dips as as possible. As to the Zizyphi Fructus, cleans C and divides equally with 2 what big. (it boils with 30~60 minutes when the night is the dried shelled chestnuts)

2) Pre-processed materials are filled in the molded container which well mixes the glutinous rice (1) and nonglutinous rice (1) mixed rice 60 % (w/w), night 5~20 % (w/w), pine-nuts 1~5 % (w/w), bank 1~5 % (w/w), ginseng slice 1~5 % (w/w), zizyphi Fructus 1~5 % (w/w) and is prescribed like the upper part. The temperature 121~141 ℃ (1.05~2.8kg/cm<sup>2</sup>), and 1~6 discrimination first Biorization are sterilized to the clean steam.

3) The manufacturing process of the asepsis informality packaged cooked rice by the aseptic packing method after the rice cooking liquid (sugar 30~40 A % (w/w), sesame oil 5~15 % (w/w), the nicely aged soy sauce [over the deionized water extract 6.0 % (w/v) over the total azote 0.6 % (w/v)] 3~7 % (w/w), the caramel source [soluble solid 60 % (w/v)] 2~10 % (w/w) being dissolved at the sterilized mixing raw materials 90g~150g with the purified water of 50~60% and sterilizing to HTST in 131~141 ℃ with 1~4 the first publication and making the asepsis rice cooking source liquid, 0.8~1.5 drainage (64~225ml) is a mantissa and 15~30 minutes the rice cooking is to the pressure (temperature 115℃) of the clean steam 0.75kg / cm<sup>2</sup> and it does to give time of 5~15 minutes and it manufactures.

Drawing

Drawing(s)

Drawing

## 양양악적 부가보장금의 제정령령

